**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION 10**
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OFFICE OF
ECOSYSTEMS,
TRIBAL AND PUBLIC
AFFAIRS

March 25, 2013

Mr. Kyle P. Holman
Federal Highway Administration
3050 Lakeharbor Lane, Suite 126
Boise, Idaho 83703

Mr. Ken Helm
Idaho Transportation Department
P.O. Box 837
Lewiston, Idaho 83501

Re: US 95 Thorncreek Road to Moscow Draft Environmental Impact Statement and Section 4(f) Evaluation (EPA Region 10 project number 03-084-FHW).

Dear Mr. Holman and Mr. Helm:

The U.S. Environmental Protection Agency has reviewed the US 95 Thorncreek Road to Moscow Draft Environmental Impact Statement. We are submitting comments in accordance with our responsibilities under the National Environmental Policy Act and Section 309 of the Clean Air Act. We appreciate the opportunity to offer comment.

To improve safety and increase capacity on approximately 6.34 miles of US 95 from Thorncreek Road (MP 337.67) to the South Fork Palouse River Bridge (MP 344.00) in Latah County, Idaho, FHWA and ITD propose to replace the existing two-lane undivided highway with a four-lane divided highway with a 34-foot median. The No Action Alternative and three alignment alternatives are presented: a western, a central, and an eastern alignment. The western alignment, **W-4**, 6.69 miles long, would follow existing US 95, shift west for 2.91 miles and re-connect with existing US 95 south of Moscow. The central alignment, **C-3**, 5.94 miles long, would closely follow US 95, shift east on new alignment for 2.71 miles, and re-join existing US 95 to Moscow. The preferred alignment, **E-2**, 5.85 miles long, would follow existing US 95 to the top of Reisenauer Hill, shift east for 5.43 miles of new alignment, and reconnect with existing US 95 south of Moscow.

We acknowledge the need to address capacity and safety concerns on this segment of US-95, and appreciate FHWA and ITD's involvement of resource agencies during the early project development process. At that time (2004-2006), the EPA and other resource agencies shared serious concerns and provided guidance regarding project alternatives, particularly with respect to Alternative E-2, the eastern alignment. In response, ITD and FHWA provided additional analyses and technical reports. This was a commendable effort in that it addressed a variety of topics raised by agencies and the public, engaged many subject experts, and employed innovative methods, such as the Delphi process, to inform decision making.

While we appreciate the array of technical reports, and the infusion of public and agency comments, it appears that the information has not altered the proposed alignment of the project (Alternative E-2). We continue to have serious concerns regarding the preferred alignment, due to anticipated significant environmental degradation of aquatic resources, and Palouse prairie habitat and species that could be corrected by project modification or selection of another alternative. Also, there is a need to address wildlife habitat connectivity/roadway permeability and the safety issue it represents.

Accordingly, we are rating the DEIS as EO-2, Environmental Objections, Insufficient Information. An explanation of the EPA rating system is enclosed with this letter. Our main issues and information needs include the following:

- Within a landscape/project area where approximately only 3% of historic aquatic resources and their associated ecological functions remain, and where less than 1% of historic grassland wetlands remain:
    - The DEIS provides no Clean Water Act Section 404(b)(1) analysis and, therefore, no basis to support Alternative E-2 as the Least Environmentally Damaging Practicable Alternative.
    - The DEIS does not demonstrate that proposed discharges would not have an unacceptable adverse impact either individually or cumulatively on the affected ecosystem.
    - The DEIS lacks information to determine whether or not all available means to avoid and minimize impacts to aquatic resources have been applied.
    - No compensatory mitigation plan for aquatic resources impacts is provided.

- Within a landscape/project area where approximately only 1% of historic Palouse prairie, a critically endangered ecosystem, remains:
    - The DEIS and the preferred alternative, E-2, do not emphasize Context Sensitive Solutions, which are needed throughout project development, siting, design, construction, and long-term maintenance, for this unique and vulnerable ecological and community setting.
    - The preferred alternative, E-2, poses the greatest potential impacts and ecological risks to Palouse prairie remnants, particularly to Paradise Ridge, the largest remaining remnant in Latah County.
    - The DEIS does not acknowledge or analyze the potential cumulative effects to Palouse prairie habitat and species within the project area, Latah County, or the region if project area remnants are lost to weed invasion.

- Within a landscape/project area where 89% of the Ponderosa pine communities have been lost[1]:
    - The preferred alternative, E-2, would eliminate approximately 4 acres of Ponderosa pine woodland, which would be avoided by other proposed alternatives; and

[1] IDFG Terrestrial Wildlife Impact Assessment for US 95, Top of Reisenauer Hill to Moscow

- This incremental loss would contribute to local, regional, and cumulative effects upon species in decline that are associated with Ponderosa pine communities, including but not limited to pygmy nuthatch, long-eared myotis, and northern alligator lizard.

- Neither the preferred alternative, E-2, which would affect the highest value habitat and have the highest risk of wildlife-vehicular collisions, nor the other proposed alternatives include sufficient provisions for ecological connectivity/roadway permeability to (1) enable safe passage and dispersal for ungulates (moose, elk, deer), and other species; and (2) provide potential for connecting restored habitats and facilitating species' migration/adaptation to climate change.
- Proposed mitigation to address impacts, particularly those affecting aquatic resources, Palouse prairie remnants, and wildlife, appear insufficient to address the proposed project's direct, indirect, and cumulative effects; implementation and effectiveness monitoring are not discussed.
- The EIS needs further analysis and disclosure of potential ground water impacts.

Our enclosed detailed comments provide more discussion of these points. We thank you for this opportunity to offer comments, and would welcome further opportunities to collaborate with FHWA and ITD on the US-95 Thorncreek Road to Moscow project. If you have questions or would like to discuss these comments, please contact me at (206)553- 2601 or at carnahan.linda@epa.gov, or Teena Reichgott at (206)553-1601 or at reichgott.christine@epa.gov.

Sincerely,

Linda Anderson-Carnahan

Linda Anderson-Carnahan, Acting Director
Office of Ecosystems, Tribal and Public Affairs

Enclosures

**U.S. Environmental Protection Agency**
**Detailed comments on**
**US-95 Thorncreek Road to Moscow Draft EIS**

**Preferred Alternative – Need for Context Sensitive Solutions[2]**

We understand that the stimulus for this EIS was a legal challenge focusing on the endangered Palouse prairie habitat. Given this level of concern, we believe that a Context Sensitive Solution is essential for a successful outcome for the US-95 Thorncreek Road to Moscow project[3]. ITD and FHWA have taken steps to involve agencies, gather public comment, and produce an array of technical reports to inform the NEPA process. We commend ITD and FHWA for these efforts. However, it appears that the information has not altered the proposed alignment of the project.

Alternative E-2 is preferred by ITD and FHWA primarily for safety reasons (Helm and Holman, pers. comm.). While we understand and appreciate efforts to maximize safety, we note that all three proposed alternatives would meet safety needs described in the EIS. However, the preferred Alternative, E-2, would do so at the expense of many other social, cultural, and ecological needs and priorities. A context sensitive solution would balance these needs, resulting in an outcome that would meet the purpose and need for increased capacity and safety plus:

(1) avoid and minimize direct, indirect, and cumulative impacts and risks to rare, sensitive, and ecologically valuable habitats and ecosystem services;
(2) protect the scenic, natural, and cultural values of the community;
(3) minimize farmland losses; and
(4) provide sufficient ecological connectivity to prevent wildlife-vehicular collisions, facilitate ecosystem restoration, and support adaptation to climate change.

Of the three proposed alternatives in the Draft EIS, Alternative E-2 appears to be least suitable to meet these needs.

*Recommendation:* Reconsider the selection of a preferred alternative by pursuing the qualities and applying the principles[4] of Context Sensitive Solutions. We believe the required Clean Water Act Section 404(b)(1) analysis can be integrated with and will assist this effort (see comments below).

**Aquatic Resources Effects**

Clean Water Act Section 404(b)(1) analysis. All three action alternatives described in the DEIS include the proposal to discharge fill material to wetlands and waters of the United States in the Thorn Creek drainage or the South Fork of the Palouse River drainage. Based on the information provided in the DEIS, we believe that this proposed project does not comply with the Clean Water Act Section 404(b)(1) Guidelines for the following reasons:

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[2] Context Sensitive Solutions – principles and qualities: http://contextsensitivesolutions.org/content/topics/what_is_css/core-principles/

[3] EPA scoping letter, March 8, 2004

[4] http://www.vtpi.org/tdm/tdm57.htm CSS Principle #1: Balance safety, mobility, community, and environmental goals in all projects.

- *Considering the 303(d) listed streams and diminished aquatic functions within the project landscape and watershed, the DEIS does not demonstrate that proposed discharges would not have an unacceptable adverse impact either individually or cumulatively on the affected ecosystem* (40 CFR 230.1(c)).
  The DEIS (p. 214) states that 97% of Palouse wetlands have been lost to agriculture and less than 1% of historic grassland wetlands remain. The associated ecological functions have been similarly reduced: the South Fork Palouse River basin streams are water quality impaired for sediment, nutrients, temperature, and bacteria; habitat alteration has caused intensified peak flows, high erosion, incised banks, sedimentation, and dropped water tables (p. 86). For all alternatives, the proposed project would further degrade aquatic resources in the project area (p. 153) with wetland fills, increased numbers of tributary crossings and lengthening of culverts, roadway encroachment, vegetation removal, increased impervious surface and runoff, and increased erosion and sedimentation. The approved South Fork Palouse River Total Maximum Daily Loads (TMDLs) for bacteria, nutrients, sediment, and temperature recommend riparian area restoration and stream buffer zones that would reduce temperatures and filter nutrients, sediment, and bacteria from direct delivery to the river.

  > *Recommendation:* In the Final EIS, demonstrate that the proposed project would not exacerbate impaired waters and disclose how the project would comply with TMDLs.

  Because aquatic resources and their associated functions and values are seriously diminished in the project area, we are concerned that Alternative E-2 would also impact headwater streams draining Paradise Ridge, which retain a higher level of integrity and function in the project area. Streams, headwaters, ephemeral and intermittent streams provide many upstream and downstream benefits. They protect against floods, filter pollutants, recycle nutrients, and provide food and habitat for fish and other biota. They also serve to maintain the quality and quantity of drinking water, maintain stream base flows, and recharge groundwater.[5] The DEIS does not address the need for avoidance of these impacts or discuss the consequences of additional impacts to existing higher functioning resources.

  > *Recommendation:* In the Final EIS, discuss how additional impacts to higher functioning stream and riparian resources would be avoided.

- *Based solely on impacts to aquatic resources, the DEIS does not provide sufficient information to determine the least environmentally damaging practicable alternative (LEDPA).*
  The DEIS (p. 154) states that "The E-2 Alternative would avoid effects to the greatest extent." However, other than the number of stream crossings, linear feet of affected streams, and acres of wetland fill for each alternative, which are insufficient to make a determination, there is no supportive analysis. The EIS needs to include a 404(b)(1) analysis that demonstrates that all practicable means have been exhausted to avoid and minimize harm to aquatic resources. For example, full span bridging of wetlands or headwater streams, or minimizing fills by shortening approaches to bridges, or eliminated stream encroachments may be feasible. While this project would re-build existing highway sections, impacts are presumed to be lower where an existing

[5] US EPA on Rivers and Streams, http://water.epa.gov/type/rsl/streams.cfm

road already impacts aquatic resources. Alternatives C-3 and W-4 use the existing corridor more than E-2. Streams recover relatively quickly from impacts, even if those impacts are permanent, e.g., moving a channel. Effects on wetlands generally are permanent, and require replacement of the resource, a difficult and lengthy process. More information regarding stream encroachments for each alternative is needed to determine the potential for avoiding or minimizing these stream impacts to the maximum extent practicable in accordance with the Guidelines.

- *Although the DEIS states that Alternative E-2 would avoid effects to the greatest extent, it does not consider other significant adverse environmental consequences, such as impacts to critically endangered Palouse prairie habitat* (40 CFR 230.10(a)).
  NEPA (Section 102(B)) and the Guidelines at 40 CFR 230.10(a) are intended to ensure that environmental factors receive sufficient consideration in decision making. Specifically, 40 CFR 230.10(a) states, "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences" (underline added). Therefore, we believe that impacts to Palouse prairie habitat and species that would result from the various alternatives, and particularly from Alternative E-2, should be considered in the LEDPA determination. These impacts are discussed in our comments below.

  *Recommendations:*
  - ITD and FHWA should work with the EPA, USFWS, IDFG, and the Corps to determine whether there are additional means to avoid and minimize impacts on the various alignments.
  - Prepare a thorough 404(b)(1) analysis, which includes consideration of impacts to Palouse prairie habitat and species, as well as to Ponderosa Pine habitat, and to community culture and values associated with Paradise Ridge and its biotic community. Involve resource agencies in the process, and include the analysis in the Final EIS.
  - Correct the inconsistencies in the EIS with respect to wetland impacts for Alternative E-2 (p. 13: 3.61 acres; p. 155: 3.23 acres).

Compensatory Mitigation Plan. For unavoidable impacts to aquatic resources, the EIS should include a discussion of all mitigation options, including on-site mitigation, and provide a draft mitigation plan. A draft mitigation plan is needed to disclose for the public and the decision maker the relative adequacy, suitability, and feasibility of proposed mitigation, and to determine the likelihood that the plan can and will be implemented. We are concerned that, other than mentioning the possible use of credits from the existing Cow Creek mitigation site, the DEIS provides no mitigation plan.

*Recommendation:* In the Final EIS, provide a detailed compensatory mitigation plan, which includes the following information:
- A description of the resource type and amount that will be provided, the method of compensation, and the manner in which the resource functions of the compensatory mitigation project would address the needs within the Palouse bioregion and project area.
- A description of the factors considered during the compensatory mitigation project site selection process.

- A description of ecological performance standards that will be used to assess whether the project is achieving its objectives.
- A description of parameters to be monitored in order to determine if the compensatory mitigation project is on track to meet performance standards and if adaptive management is needed.
- Descriptions of the long-term management plan, adaptive management plan, and financial assurances.

**Effects to Palouse Prairie Habitat, Rare and Threatened Plant Species**

Due to its conversion to agricultural lands, only about 1% of Palouse prairie habitat, a critically endangered ecosystem, remains today[6] – all as remnant patches within a matrix of agricultural and other human land uses. Alternative E-2 runs closer than any other alternative along the base and lower hillside of Paradise Ridge, the largest remaining remnant of Palouse prairie in Latah County. E-2 is also proximate to the greatest number of other known prairie remnants in the project area; of the 32 remnants inventoried in 2005, 24 are located near Alignment E-2 (p. 206).

As indicated above, the 404(b)(1) Guidelines direct that, in addition to aquatic ecosystem impacts, the LEDPA determination must address whether or not other significant adverse environmental consequences would occur when considering alternatives. While the DEIS states (p. 45) that within the eastern corridor the E-2 Alternative "...was the only alternative to not affect rare plant communities,[7]" the Noxious and Invasive Weeds technical report by Lass and Prather (2007) clearly indicates that such impacts would occur with selection of Alternative E-2.

The proximity of the E-2 Alignment to Paradise Ridge and to other prairie remnants is significant due to weed invasion that would result from ground disturbance during construction, maintenance, and the continuous transport of weed seeds from vehicular use of the roadway. The report states that "Areas within 0.6 miles of the highway are at greatest risk to invasion", that "Areas extending east of the road may have a slightly elevated risk of invasion by wind dispersed weed species beyond 0.6 miles", and that "More Palouse Prairie is affected by the eastern [E-2] alignment." From Alignment E-2, this dispersion distance for weed seeds would extend to the summit of Paradise Ridge and beyond. Conservation and recovery areas for *Silene spaldingii* (ESA threatened plant species), other federally funded and community rare plant restoration areas, and Conservation Reserve Program lands are also concentrated on Paradise Ridge.

Well-funded, long term monitoring and management measures would be needed to prevent and control weed invasions to protect endangered Palouse prairie habitat and species from project-induced weed invasion if Alternative E-2 is selected. While ITD proposes (p. 231) to develop and implement a weed inventory, control plan and a seed mix to compete against weed establishment for any of the three proposed alternatives, it is unclear whether the level of commitment would be sufficient to protect rare habitat.

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[6] Noss, LaRoe, and Scott. 1995. Endangered ecosystems of the United States: A preliminary assessment of loss and degradation. USDI National Biological Service Biological Report 28.

[7] This statement needs to be corrected in the Final EIS.

*Recommendations:*

- Modify discussions in the Final EIS to improve disclosure and incorporation of these findings from the Noxious and Invasive Weeds Technical Report (Lass and Prather, 2007).
- In accordance with Executive Order 13112, for any chosen alignment, develop and commit to implementation of a detailed mitigation plan for effectively preventing and controlling the infestation and spread of weeds during project construction, maintenance, and long term operation. Disclose the extent to which the prevention and control measures may need to be intensified with Alternative E-2 and any additional long-term costs associated with implementation. Discuss ITD's level of commitment to implementing an intensified, long-term weed control program.
- Develop the mitigation plan in consultation with resource agencies and weed experts. Obtain their approval of the final plan.
- Consider selection of another alternative that would minimize project-induced weed invasion of Paradise Ridge and other Palouse prairie habitats.
- Analyze the cumulative effects to the remaining Palouse prairie ecosystem if remnant patches affected by the proposed project are lost to weed invasion.

**Wildlife and Habitat**

Because Alternative E-2 is located within and nearest the highest quality wildlife habitat in the project area, we are concerned that this alternative would also result in the greatest impacts to wildlife and wildlife habitat in the project area. Habitats that are in shortest supply and/or exist nowhere else in the project area are found on Paradise Ridge. These include:

- Palouse prairie – the largest, most intact, ecologically diverse and connected habitat;
- Native/rare plant conservation and restoration sites;
- Conservation Reserve Program lands;
- Ponderosa pine stands, which are inhabited by pygmy nuthatch, listed as critically imperiled by IDFG, provide habitat for long eared myotis, northern alligator lizard, and a host of other species;
- Palustrine scrub shrub wetlands – the wetlands of highest ecological value in the project area; and
- Shrub-vegetated riparian draws, which provide wildlife cover, forage, and movement corridors on the slopes of Paradise Ridge.

Impacts to project area wildlife and habitat would be direct, indirect, and cumulative in nature, including habitat loss, degradation, and fragmentation; noise and other disturbance from human presence and activities; mortality from wildlife-vehicular collisions and other interactions with humans; diminished and degraded water resources; and induced development. Impacts to ecological connectivity would result from any of the action alternatives, but would be most severe with Alternative E-2. These impacts could be minimized by choosing another alternative. We discuss this issue in more detail below.

**Ecological Connectivity.** Impacts to ecological connectivity that notably affect wildlife include: habitat fragmentation and associated edge effects; reduced access to food, cover, and social interactions; barrier effects/disruption of movement corridors and migration routes; and increased risk of wildlife-vehicular collisions and mortality. A factor essential to meet needs of both safety and ecological connectivity is

providing safe passage for all wildlife species that use the project area, including ungulates (moose, elk, and deer). This is true for all alternatives under consideration, but especially for Alternative E-2.

We commend FHWA and ITD for the mitigation commitment in the DEIS to provide adequate width for passage of small terrestrial wildlife at stream culverts and riparian areas (p. 231). We are also encouraged to learn (Helm, pers. comm.) that ITD is working with a contract wildlife biologist to design passage suitable for larger mammals at Eid Road overpass. However, many wildlife species, including moose and elk, avoid human activities and contact. We would like to know more about this effort and how a county road overpass would serve as a viable wildlife crossing. There are many resources available as guidance for the siting and design of wildlife crossings. Among them are:

- ICOET Proceedings: http://www.icoet.net/links.asp
- Wildlife Crossings Toolkit: http://www.fs.fed.us/wildlifecrossings/
- Safe Passage: http://www.wildlifeconsultingresources.com/pdf/Carnivore%20Safe%20PassageFinalSMALL.pdf

> *Recommendation:* Provide wildlife crossing structures of suitable number, design, and location, with appropriate fencing to guide species to crossing locations, in order to: improve roadway safety by preventing wildlife-vehicular collisions; re-connect restored habitats; facilitate wildlife migration/adaptation to climate change; and enable safe passage of all (both low and high mobility) wildlife species that are known or are likely to reside in or pass through the project area.

**Safety Effects.** In the DEIS, Alternative E-2 is preferred because, based on the DEIS safety analysis, it is projected to be the safest of the three proposed alternatives. Yet all three alignments are proposed as viable solutions, which would fully meet AASHTO standards and the purpose and need for increasing capacity and safety. The DEIS states (p. 204) that "...the travel times and safety between Action Alternatives does not differ substantially." Only Alternative E-2 would pose a wide array of environmental impacts, many unique to this project area and community, which could largely be avoided through the selection of another alternative.

We reviewed the safety analysis in the DEIS and in the Safety Technical Report and have the following concerns regarding its content and conclusions:

- The Climate and Wildlife Safety Analysis, Appendix E of the Safety Technical Report, states (p. 7) that "...the Eastern alignment (E-2) would rank lowest in motorist safety due to its proximity to year-round habitat on Paradise Ridge." The numbers of wildlife-vehicular accidents that have occurred on existing US-95 are then dismissed as insignificant, with no accounting for the increased risk of wildlife-vehicular collisions on Alignment E-2. No proration variable for wildlife-caused accidents are included in the safety calculations for any alternative. The only proration variable used, which serves as the principle basis for the safety projections, is an estimate of Total Turning Movements for the number and type of access points for each alternative alignment.
- The number of wildlife-vehicular collisions (37) recorded for 2002-2011 on the existing US-95 roadway, which is located at greater distance than E-2 from the higher value habitat of Paradise Ridge, was higher than the number of head-on (8) and intersection-related (22) collisions

combined. By moving the roadway within and near the area of higher habitat quality and wildlife usage in the project area, and by substantially widening, straightening, and increasing vehicular speeds on the roadway, the number and severity of wildlife-vehicle collisions are likely to increase. Consider, for example (DEIS p. 171) that "E-2 would be aligned between an existing man-made farm pond that may be used by wildlife, and Paradise Ridge. E-2 could affect the movement of moose and elk that currently travel between the pond and Paradise Ridge."

- The proposed means to mitigate wildlife-vehicular collisions, wider clearance and greater sight distance, would have reduced effectiveness at dusk, dawn, and during the night when many wildlife species are most active. Inclement weather, which based on collision data, weather analysis, and public comment is a frequent occurrence and a prominent safety issue in the project area, would further reduce the effectiveness. Of 274 crashes from 2002-2011, 128 (47%) were due to inclement weather or road conditions (p. 112).[8]
- The portion of existing US-95 alignment that is not used for the proposed project would become County roadway and would continue to be used for local circulation. The amount of existing US-95 that would become County roadway differs with each Alternative. E-2 would result in the greatest amount; C-3 the least. The collisions projected for the remaining segment of existing US-95 that would result from each alternative should be combined with the new roadway estimate to show the cumulative safety outcome.
- The extent to which local traffic would use existing US-95 rather than the new alignment, thereby reducing average daily traffic on the new alignment, would differ for each alternative. Yet the same ADT (6150) is used in each alternative's safety calculation.
- Alignment E-2 receives greater precipitation than the other two alignments.

> *Recommendation:* In the Final EIS, fully disclose the factors and methods used to evaluate safety for the proposed alternatives. Incorporate appropriate variables in the calculations to reflect the above factors in the safety analysis and report the revised results.

**Land Use/Induced Development Effects.** The Delphi panelists (Community Profile and Induced Development Technical Report) conclude that growth will occur in the area south of the Moscow city limits regardless of the alternative selected and that once a final alternative is chosen, the pace and intensity of growth will increase due to the alleviation of uncertainty regarding the alignment location (p. 44). In reference to Alternative W-4 they discuss the potential for added pressure to develop an intersection in a commercial manner (p. 45), which could apply to other alignments as well. We agree with the Panel's findings that, "There is no doubt that new roadway capacity might cause more development to occur", and that, "preventive strategies are key to mitigating impacts resulting from this transportation project" (p. 45). The best strategy to prevent impacts to critically endangered Palouse prairie habitat and species, to other high value habitats in the project area, and to the community values derived from them is avoidance.

**Effects on Farmland and Conservation Reserve Program Lands.** Alternative E-2 would affect the greatest number of acres of actively farmed land even after the CRP land is subtracted (p. 147), and the highest number of prime farmland acres (p. 145). It would also convert 43.5 acres of CRP land vs. 9 acres for the other alternatives. While CRP lands may potentially return to agriculture, these reserves

[8] There are data inconsistencies in the DEIS for total crashes (220 or 274), and for number of wildlife-vehicular collisions (37 or 31). The percentage of weather-related crashes is higher (58 %) if 220 is the correct total.

provide wildlife habitat, improve ecological connectivity, buffer aquatic areas and remnant prairie, control erosion, and improve water quality. These ecological functions and values would be diminished to the greatest extent with Alternative E-2.

> *Recommendation:* In the Final EIS, disclose the direct, indirect, and cumulative effects of further reducing these ecosystem services, which would result from Alternative E-2.

**Environmental Justice – Low Income/Minority Housing.** Alternative E-2 is the only alignment that would displace a mobile home park (Benson Mobile Home Park). This impact should be avoided because:

- The largest percentage of minorities occurs near the Hidden Village and Benson Mobile Home Parks (Community Impact Assessment Update, p. 7).
- There are currently no known plans for future affordable housing projects in the corridor and none have been identified in the City or the County since 2005 (Community Impact Assessment Update, p.10).
- The population below the poverty level in Latah County has increased from 17% to 23%, i.e., by 6.2% (Induced Development Update).
- The percentage of low income families within the project area has decreased by 2-3%, which coincides with a decrease in the number of families living in the area (Environmental Justice Update, p. 8).
- Many of the rentals (used as a low income indicator) in the project area are located in the general vicinity of mobile home parks (Environmental Justice Update, p. 8).

Based on the data provided, there is clearly a shortage of low income housing in the project area and an increasing need for it.

> *Recommendation:* Avoid impacts to the existing mobile home parks/low income housing.

**Ground Water**

The DEIS (p. 93) indicates that there are two basalt aquifer systems that supply drinking water in the project area. The deeper Grande Ronde aquifer, which is used as a municipal supply, has been declining at a rate of one to two feet per year in some areas indicating little recharge. The shallow Wanapum aquifer is a primary source for rural residents, particularly in the eastern corridor area. This aquifer is recharged from precipitation and infiltration from the surface. In discussing the project effects on groundwater (p. 160) the DEIS states that Alternative E-2 is the only alignment that would impact domestic wells (2 wells).

We are concerned that the DEIS does not also address how the new proposed roadway alignments would directly, indirectly, and cumulatively affect surface and subsurface water movement, infiltration, ground water quality, and ground water quantity. An analysis of effects upon surface infiltration and aquifer recharge, particularly in the eastern corridor where it is most needed for domestic water supplies, is important to the analysis of effects. The EIS should also analyze how and to what extent surface and subsurface lateral and vertical water movement would be affected by the roadway, the effects on the local water tables, and on the quality and quantity of water in local wells.

*Recommendation:* Provide the above information in the Final EIS.

**Visual, Noise, and Other Community Effects**

Visual. The DEIS states that Alignment E-2 would affect recreational viewpoints from Paradise Ridge, which is a popular location for hiking and bicycling, and from the University of Idaho Golf Course (p. 181). For Alternative E-2, 25% of the alignment would result in a high level of visual impacts, and 25% at a moderate high level--the highest percentages of any alternative (Table 55, p. 180). Road cuts and fills would also be more extensive with Alternative E-2 with the highest cut and fill heights of any alternative: 128 ft maximum cut height; 83 ft maximum fill height (Environmental Justice Report, p. 9). Because Paradise Ridge is a prominent community landmark, it is a visually sensitive area in all directions whether one is looking to or from it. Any development that is induced by the siting of E-2 would also impose visual impacts.

*Recommendation:* Use this information to help derive a context sensitive solution.

Noise. Evaluating noise impacts to human receptors, the DEIS indicates (p. 182) that Alternative W-4 would have no noise impacts, C-3 would have one impact, but the occupants would be displaced, and E-2 would have 7 noise impacts, 5 of which would be displaced. While this is good information, it is also important to evaluate noise impacts on wildlife, and on recreation activities, the enjoyment of which may be diminished by noise from roadway traffic. In their book, *Road Ecology: Science and Solutions*[9], Forman et al. state that "the open nature of farmland means that noise effects from highways extend a long distance, from hundreds of meters to over a kilometer," and that "highways in farmland may form significant avoidance zones and barriers to animal movement."

*Recommendation:* Use this information to inform a context sensitive solution.

Other community aspects important to context sensitive decision making are that:

- Alternative C-3 is viewed as most consistent with Moscow's land use goals (p. 143); and that
- Paradise Ridge, with its rich natural and cultural heritage, is considered a local landmark and source of community identity. It is frequented for recreation, exploration, learning and discovery and, based on the sustained and growing efforts toward Prairie protection and restoration, is clearly an object of their affection and long-term commitment.

*Recommendation:* Please factor this information into decision making.

**Project Construction**

The DEIS (p. 224) states that "Staging areas, stockpile sites and waste sites would be determined by the contractor. Waste sites and haul roads may be off site but would be approved by ITD." Due to the sensitive resources in the project area, particularly rare plants that may not be apparent at all seasons, and the need to minimize ground disturbance, the staging, stockpile, waste sites, and haul roads must be carefully located. Material source sites and the quantity of materials (cubic yards) also need to be identified.

[9] Richard T.T. Forman, et al. Road ecology: science and solutions, 2003.

*Recommendation:* ITD and contractors should work with appropriate resource agencies to identify suitable staging, stockpile, and waste sites and haul road locations. All sites should be approved by ITD in consultation with resource agencies. Identify the material source sites and the quantity of materials to be extracted, transported, and stored.

**Monitoring and Adaptive Management**

Monitoring is important to assess the accuracy of predictions of effects and to ensure the success of mitigation efforts. In addition, monitoring provides the means to identify the need for modifying (increasing or decreasing) mitigation. Adaptive management provides the flexible program for achieving these changes to mitigation. We recommend that the final EIS include a section that describes all of the proposed monitoring that would be necessary to implement the selected alternative, and any adaptive management strategies that would be used.

**Additional EIS Information Needs and Corrections**

Comparison of Alternatives. The Executive Summary of Alternatives' Benefits and Effects (Table 2, p. 13) includes no information regarding impacts to Palouse prairie habitat. The Executive Summary discussion states only that "The primary disadvantage of E-2 over the other alternatives is that it would be located closer to the base of Paradise Ridge and closer to moderate wildlife habitat." (p. 15)

*Recommendation:* In the Final EIS, include Palouse prairie and other vegetation impacts, such as, those affecting Ponderosa pine woodland, ESA threatened *Silene spaldingii* habitats and recovery areas, Prairie restoration sites, and CRP lands in the comparison and discussion of alternatives.

Mitigation. The environmental commitments listed on page 230 refer to a Memorandum of Understanding with IDFG that is being developed. We are unaware of this MOU and the DEIS provides no further information about it. IDFG (Hennekey, pers. comm.) indicates there have been discussions with ITD regarding mitigation, but no MOU exists.

*Recommendation:* In the Final EIS, provide a complete listing of, and specific information regarding any agreed to environmental commitments, including those made between ITD/FHWA and IDFG, and/or any other entities.

**U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements Definitions and Follow-Up Action***

## Environmental Impact of the Action

**LO – Lack of Objections**

The U.S. Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

**EC – Environmental Concerns**

EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

**EO – Environmental Objections**

EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

**EU – Environmentally Unsatisfactory**

EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

## Adequacy of the Impact Statement

**Category 1 – Adequate**

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

**Category 2 – Insufficient Information**

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

**Category 3 – Inadequate**

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.